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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/478,682	01/06/2000	ADAM K. KOLAWA	36463/RRT/P3	1994

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EXAMINER
VO, TED T

ART UNIT	PAPER NUMBER
2122	#6

DATE MAILED: 01/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/478,682	Applicant(s) KOLAWA ET AL.
	Examiner Ted T. Vo	Art Unit 2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 January 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This action is in response to the communication filed on 01/06/2000.

Claims 1-37 are original claims. Claims 1-37 are pending in the application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-14, 19-27, 32-35, 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Grossman et al., (US No. 6,332,213)

As per claim 1:

- Regarding claim limitation, "*A method for testing a computer comprising the step of:*

parsing a source code of the computer program;

creating stubs for the source code;

instrumenting the parsed source code with the created stubs;

compiling the instrumented code;

testing the compiled code; and reporting test results in a GUI";

Grossman teaches the claim limitation by using instrumentation software (see column 6, lines 35-56) to instrument an IR tree (block 66, figure 4). The IR tree is parsed from a source code 44 (figure 3). The instrumentation is a process of testing and debugging the source code 44, where the parsed source code with instrumented code is compiled into object code 46 (see column 5, lines 2-35). With the instrumentation, the parsed source code forms the code instrumentation 50 and the instrumentation IR data 65 (see column 6, lines 45-56). As a result of compilation, the input source code 44, which is included with the parsed instrumented-code, forms the object code 46 (See figure 3).

During the instrumentation, Grossman includes a set of STUB routines in the IR tree, where the stubs in accordance to Grossman are the instrumented routines which have the returns without executing anything (see column 17, lines 34-50). Grossman uses common display units (column 4, lines 44-65) incorporated with the Microsoft NT network ('GUI') to view the output from instrumentation.

As per claim 2:

Regarding to claim limitation of claim 2, the claim limitation is inherent from the teaching "run time instrument code by using a separated routine", where the separated routine is an external routine in a library (column 17, lines 33-50). Since the instrumented code invokes a library routine or a stub routine, there must be a modification in the parsed source so that it addresses the invoked routine.

As per claim 3: The DLLs and the set of stub routines (column 17, lines 33-50) teach the limitations, 'specific functions, predetermined functions, and predetermined stubs'.

As per claim 4: The limitation recites the functionality "automatically generated" of predetermined functions and stubs. However, the limitation is not specialized for what type or spec of stubs or functions. Therefore, the functionality of this claim limitation is inherent from the availability of DLLs and the sets of stub routines disclosed by Grossman, which are available and used by the instrumentation software 63 for instrumenting the parsed IR tree at run-time.

As per claim 5: Claim 5 is corresponding to claim 4, and further recites generating argument and automatically initializing class member. This recitation is limited to syntax (arguments) and oriented structure (class) of a routine. Therefore, the claim functionality simply generates an external generic

routine that is invoked by an instrumented code. The availability of DLLs and a set of the stub routine inherently teach this claim limitation (also see column 16, lines 66-67).

As per claim 6:

Regarding claim 6, the claim limitation is inherent from DLLs or a set of stub routines.

As per claim 7:

Regarding claim 7, the claim limitation is inherent from the input/output provided by the computer using the common display unit 24 (column 4, lines 44-65).

As per claim 8:

Regarding claim 8, Grossman teaches the claim limitation by using tree constructing software 62 (figure 4) that creates IR nodes from parsing the source code 44, and using step 206 to determine nodes of interest for instrumenting (see column 11, lines 13-30).

As per claim 9:

Regarding claim 9, claim limitation is inherent from a node of the parsed tree IR.

As per claims 10-11:

Regarding claim limitation of claims 10-11, the claims are inherent from the definition of a stub, where a stub is only a routine that is not functionally related to the routine of the source program.

As per claim 12:

Given the broadest interpretation of this claim in light of the specification:

The claim is inherent from the DLLs or the sets of stubs used by instrumentation software 63. The DLLs or the sets of stubs are only list elements used for testing the source code 44. Or the claim is inherent from the set of nodes of interest determined by the step 206 for implementing the instrumented code.

As per claims 13-14:

Regarding claims 13-14: The display unit 24 incorporated with Microsoft NT will monitor the output from the computer microprocessor, where a display unit associated with window NT is another term of GUI.

As per claim 19:

Claim 19 has claimed functionality corresponding to the claimed functionality of claim 1. Claim 19 is rejected in the same reason set forth in connecting to the rejection of claim 1.

As per claim 20:

Claim 20 has claimed functionality corresponding to the claimed functionality of claims 8-9. Claim 20 is rejected in the same reason set forth in connecting to the rejections of claims 8-9.

As per claim 21:

Claim 21 has claimed functionality corresponding to the claimed functionality of claim 2. Claim 21 is rejected in the same reason set forth in connecting to the rejection of claim 2.

As per claim 22:

Claim 22 has claimed functionality corresponding to the claimed functionality of claim 3. Claim 22 is rejected in the same reason set forth in connecting to the rejection of claim 3.

As per claim 23:

Claim 23 has claimed functionality corresponding to the claimed functionality of claim 4. Claim 23 is rejected in the same reason set forth in connecting to the rejection of claim 4.

As per claim 24:

Claim 24 has claimed functionality corresponding to the claimed functionality of claim 5. Claim 24 is rejected in the same reason set forth in connecting to the rejection of claim 5.

As per claim 25:

Claim 25 has claimed functionality corresponding to the claimed functionality of claim 6. Claim 25 is rejected in the same reason set forth in connecting to the rejection of claim 6.

As per claim 26:

Claim 26 has claimed functionality corresponding to the claimed functionality of claim 13. Claim 26 is rejected in the same reason set forth in connecting to the rejection of claim 13.

As per claim 27:

Claim 27 has claimed functionality corresponding to the claimed functionality of claim 14. Claim 27 is rejected in the same reason set forth in connecting to the rejection of claim 14.

As per claim 32:

Claim 32 has claimed functionality corresponding to the claimed functionality of claim 1. Claim 32 is rejected in the same reason set forth in connecting to the rejection of claim 1.

As per claim 33:

Claim 33 has claimed functionality corresponding to the claimed functionality of claim 2. Claim 33 is rejected in the same reason set forth in connecting to the rejection of claim 2.

As per claim 34:

Claim 34 has claimed functionality corresponding to the claimed functionality of claims 8-9. Claim 34 is rejected in the same reason set forth in connecting to the rejection of claims 8-9.

As per claim 35:

Claim 35 has claimed functionality corresponding to the claimed functionality of claim 13. Claim 35 is rejected in the same reason set forth in connecting to the rejection of claim 13.

As per claim 37:

Claim 37 has claimed functionality corresponding to the claimed functionality of claim 1. Claim 37 is rejected in the same reason set forth in connecting to the rejection of claim 1.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

(i) Claims 15, 28, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman (US 6,332,213) in view of Beizer, "Software Testing Techniques", 1986.

As per claim 15:

Regarding to claim limitation of claim 15, Grossman teaches the claim limitation of claim 1 as specified above by using the instrumentation software (see column 6, lines 35-56) to instrument an IR tree (block 66, figure 4) which is parsed from a source code 44 (figure 3). The instrumentation is a process of testing the source code 44 which is compiled into object code 46 (see column 5, lines 2-35), where the testing is process in according to the figure 7 to generate nodes of interest used for testing or debugging in a generic manner (see column 18, 38-55) through the execution of the object code 46.

The prior art (Grossman) fails to disclose defining a specific behavior representing a node which is called during the execution of the object code (claimed limitation: *defining a specific behavior when a function within the source code is called; storing the defined information; compiling the defined information as a separated object; and linking the compiled object to the code*).

Beizer teaches a basic testing technique in software testing. Beizer teaches that a program behavior is complicated and very hard to understand (section 3.4, page 11). Therefore, it requires building a program model independently from the program which represents the behavior of the program. Run the built model in order to understand the behavior of the program, and thus modify the program (see figure 1-1, page 10). The program model is separated from the program and is run for testing.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention was made to include the teaching of Beizer, generating program model with the parsing instrumentation of Grossman for generating a specific behavior of a node as instrumented code. Doing so would simplify and understand the behavior of a routine independently from the source code or the program routine.

As per claim 28:

Claim 28, which is further limitation of claims 19, has claimed functionality corresponding to the claimed functionality of claim 15. Claim 28 is rejected in the same reason set forth in connecting to the rejection of claim 15.

As per claim 36:

Claim 36, which is further limitation of claims 32, has claimed functionality corresponding to the claimed functionality of claim 15. Claim 36 is rejected in the same reason set forth in connecting to the rejection of claim 15.

(ii) Claims 16-18, 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman (US 6,332,213).

As per claims 16-18:

Regarding to claim limitation of claims 16-18, Grossman teaches the claim limitation of claim 1 as specified above by using the instrumentation software (see column 6, lines 35-56) to instrument an IR tree (block 66, figure 4) which is parsed from a source code 44 (figure 3). The instrumentation is a process of testing the source code 44 which is compiled into object code 46 (see column 5, lines 2-35), where the testing is process in according to the figure 7 to generate nodes of interest used for testing or debugging in a generic manner (see column 18, 38-55) through the execution of the object code 46. Grossman does not explicitly mention the test process is included with white-box test, black-box test, and regression test.

White-box test, black-box test, or regression test is only a specific test based on user's point of view or point of interest. Each kind of these tests is inherent from functional testing or structure testing of the program (Beizer views the black-box testing is functional testing; Beizer, page 4, last paragraph; and views the testing as of user objectives)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention was made to include the different and common methods of testing as a point's of interest. Doing so would be conformance to user specified objectives and point's of view of test method.

As per claims 29-31:

Claims 29-31, which are further limitation of claims 19, have claimed functionality corresponding to the claimed functionality of claims 16-18 respectively. Claims 29-31 are rejected in the same reason set forth in connecting to the rejection of claims 16-18.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted T. Vo whose telephone number is (703) 308-9049. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse, can be reached on (703) 308-4789. The fax phone numbers for this Group are:

Official: (703) 746-7239.

After Final: (703) 746-7238.

Non-Official: (703) 746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

TTV
January 24, 2003

GREGORY MORSE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in ABANDONMENT of the application